

CONSTRUCTION OF BIRMINGHAM OVERSEAS STUDENTS TEACHING QUESTIONNAIRE (BOSTEQ)

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Orsett Technical Reports, Series A, No.4

ISBN: 978-0-9540761-7-7

PUBLISHED BY
Orsett Psychological Services,
PO Box 179,
Grays,
Essex
RM16 3EW
UK

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General Series Introduction

Orsett Technical Reports are designed to allow the exploration of specific topics in detail. Series A contains four reports on different aspects of the student evaluation of teaching effectiveness (SETE) or students' ratings of instruction (SRI). This is the rating of lecturers and teachers by their students.

REPORT No.1 ¹

This report is a literature review of the studies into SETE and SRI, mostly from the USA. The aim is to outline what students see as the "ideal lecturer". Much of the material comes from the prolific work of Kenneth Feldman.

REPORT No.2 ²

This report addresses the issue of the accuracy of students' ratings of their instructors. Is it an accurate picture of their teaching effectiveness or the personal feelings of the students? The issues of reliability, generalisability, and validity of the ratings, along with rating errors, are discussed.

REPORT No.3 ³

Report no.3 takes many of the technical issues raised in report no.2 further. In particular, the potential biases to SETE and SRI.

REPORT No.4 ⁴

This report gives details of the construction of the Birmingham Overseas Student Teaching Evaluation Questionnaire (BOSTEQ). The aim is to produce a rating instrument specifically to be used by overseas students.

The research is part of an MSc degree at the University of Aston ⁵.

¹ Brewer, K (2002a) Student evaluation of teaching effectiveness: an introduction, Orsett Technical Reports, Series A, No.1, Orsett Psychological Services: Orsett, Essex.

² Brewer, K (2002b) Student evaluation of teaching effectiveness: methodological issues - part 1, Orsett Technical Reports, Series A, No.2, Orsett Psychological Services: Orsett, Essex.

³ Brewer, K (2002c) Methodological issues with student evaluation of teaching effectiveness (SETE) - part 2, Orsett Technical Reports, Series A, No.3, Orsett Psychological Services: Orsett, Essex.

⁴ Brewer, K (2002d) Construction of Birmingham Overseas Students Teaching Evaluation Questionnaire (BOSTEQ), Orsett Technical Reports, Series A, No.4, Orsett Psychological Services: Orsett, Essex.

⁵ Brewer, K (1993) Overseas Students Evaluation of Teaching Effectiveness, Unpublished MSc thesis, University of Aston: Birmingham, UK.

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INTRODUCTION

The major studies in the literature of Student Evaluation of Teaching Effectiveness (SETE) have used factor analysis to reduce the number of characteristics of the ideal lecturer. For example, Smithers (1970a) starting with a list of fifty characteristics of the ideal lecturer was able to reduce them to twelve rotated factors.

Among the rating instruments, the Student Educational Evaluation Questionnaire (SEEQ) proposed by Marsh, has 9 factors: "learning/value"; "instructor enthusiasm"; "organisation"; "individual rapport"; "group interaction"; "breadth of coverage"; "exams/grading"; "assignment/reading"; and "workload/difficulty". These factors have most recently been confirmed by Marsh and Hocevar (1991).

Feldman (1976b) summarising the research on the characteristics of the ideal lecturer reduces 19 characteristics to three groupings:

i) Presentation - stimulation; enthusiasm; knowledge; preparation; clarity; overall evaluation; and course materials; intellectual expansiveness; elocution; sensitivity.

ii) Facilitation - respect; encouragement of questions; intellectual challenge; availability.

iii) Regulation - not so clear.

METHODOLOGY

From the literature surveyed (see Brewer 2002a), over 100 different characteristics of the ideal lecturer were amassed. Similar items with slightly different wording were combined - for example, "explains criticism of student performance" and "makes helpful and constructive comments on essays"; "encourages to thinking" and "stimulates independent thought".

Items relating directly to course, reading or tests/assignments were removed. This left items that related directly to the lecturer, and the lecture situation: a total of 62 items (which are listed in full in Appendix 1).

Pilot Study

Because none of the past research has looked solely at overseas students, it was uppermost not to assume what characteristics they would choose as important for the ideal lecturer.

Thus the first section of the pilot study was a simple open question about characteristics of the ideal lecturer. It was used to check if any characteristics important to the students had not been included in the prescribed items. Nothing new was volunteered.

The main section involved the 62 items. The task was to rank in order of importance, the top 20. It was accepted that this was a difficult task. Ranking seemed better than rating every item on a scale of 1 to 6. The variation of rating was tried with a small number of questionnaires, but as expected, it was hard to distinguish between the items.

Furthermore, because of the fear of social desirability, which it was felt could be a major problem with some nationalities, ratings were avoided.

Experience has shown that in some parts of the world, making any comment that could be construed as a criticism of the teacher, is unacceptable. In many cultures, particularly in Asia, the teacher has a very high status (eg: Regmi 1987). This also poses a problem for the final rating questionnaire - whether the ratings of a lecturer are a true comment by the student or a socially desirable answer? Certainly further research would need to try to isolate if there is an effect of this potential bias.

It was suggested that the 62 items should have been grouped together in certain ways, in order to ease the ranking. But because of the desire not to influence the results in any way, the 62 items were randomly listed. The sample used for the pilot study were all approached individually, and known to the researcher; so it was hoped this would encourage them to spend the extra effort on ranking the items. They were all students at the University of Birmingham or Aston Business School, and twenty-four questionnaires were returned.

The nationality make-up of returned questionnaires of the pilot study were as follows: 11 Japanese; 3 Brazilian; 2 Indonesian; 2 Taiwanese; 1 Dutch; 1 German; 2 Greek; 1 Portuguese; and 1 Thai. This included 16 males and 8 females.

The sample came from the following departments: English for Overseas Students Unit (11); International Studies (2); Development Finance (2); Aston Business School (5); Mechanical Engineering (1); Psychology (1); Economics (1); and Law (1).

From their responses the five most popular items were: "well-organised and clearly presented lectures"; "has good knowledge of own subject"; "is well-prepared for classes"; "structures difficult topics in easily understandable ways"; and "has good general knowledge".

With the least important items being: "makes good use of the overhead projector"; "always well-groomed, neat and clean in personal appearance"; "skilful in blackboard drawing"; "keeps strictly to textbook in lectures"; "has good vocabulary"; and "includes many relevant personal anecdotes".

Final study

The majority of the approximately 2000 overseas students in Birmingham, were studying at the University of Birmingham.

Based on university statistics for the academic year 1992-3, it is estimated that the largest nationality grouping (39.2%) of the total overseas students at the University of Birmingham come from South-east Asia. The largest departmental grouping is Accounting and Business (18.7% of total overseas students).

The final questionnaire was made up of the top twenty items chosen from the pilot study, plus two of the least popular items as controls. The total was 22 items to rank (see copy in Appendix 2).

969 questionnaires were sent out, through the internal post at the University of Birmingham to the departments of the sample. The response was 165 (response rate of 17%). But not all the responses were complete, some had information missing. Thus the figures for frequencies vary slightly.

The response was felt to be disappointing. However, it was not possible to send a follow-up letter because it was not clear whether the list of overseas students being used was up-to-date. The list was compiled in October 1992, but not used until the following March. Thus a number of students may have left the University.

RESULTS

The aim was for the original sample to mirror the make-up of overseas students at the University of Birmingham. This was so, except for Europe. A large number of the students were short term for 3 months, and had returned home by the time of the questionnaire (March). Otherwise the returns mirror the make-up

of the overseas student population fairly closely. This can be seen in table 1. For example, students from South-east Asia make up 39.2% of all overseas students at the University of Birmingham, and 43% of the returned questionnaires were from this group.

Though the overall response rate was below 20%, which was felt to be a little disappointing. It was accepted that this can be the case for many postal questionnaires (Bridge 1974; Monette et al 1990). The responses do give a good cross-section of the overseas students in the University of Birmingham.

NATIONAL GROUPING	NUMBER OF RETURNS	% OF TOTAL RETURN	NATIONAL GROUPING AS % OF SAMPLE	NATIONAL GROUPING AS % OF ALL OVERSEAS STUDENTS AT B.U
South-East Asia	71	43.0	40.8	39.2
Indian Sub-continent	12	7.2	9.8	6.1
Africa	36	21.8	21.9	17.4
Arabic-speaking countries	8	4.8	7.4	4.4
Europe	17	10.3	10.3	25.3
Caribbean/N America	7	4.2	7.6	4.5
C and S America	9	5.4	2.2	1.8
Missing details	5	3.3	-	-
TOTAL	165	100	100 (969)	100 (1643)

Table 1 - showing the returns of questionnaire by nationality.

The participants were asked to rank the 22 characteristics in terms of importance for the "ideal lecturer" (1 = most important). Then the results were scored as 22 points for 1 through to 1 point for the 22nd item. The items chosen for inclusion were the top 20 ranked from the pilot study, plus the two least popular as controls.

It could be argued that the data is ordinal. But it is necessary to class it as interval to allow the use of parametric tests. Thus we assume the difference between each score is equal distance, and there is no absolute zero (Stone and James 1965; see also Coolican 1990; Kenny 1986; Miller 1983; Miller 1984; Monette et al 1990; Runyon and Haber 1977). The analysis was by SPSS PC

(version 4.0.1 SPSS Inc 1989).

Table 2 shows the final ranking of the characteristics based on mean score. (See Cranton and Smith 1990 for reasoning behind choosing mean score). The top five characteristics chosen were "well-organised and clearly presented lectures"; "is well-prepared for classes"; "explains concepts, principles and abstract theories clearly and precisely"; "has good knowledge of subject"; and "structures difficult topics in easily understandable ways". Not surprisingly "speaks clearly and audibly" is also important. Items in 1st and 2nd position are quite similar, as are those in 3rd and 5th position.

Characteristics	Mean
1. Organised (G).	18.24
2. Prepared (D).	16.74
3. Explains concepts (H).	16.47
4. Knowledge of subject (F).	15.83
5. Structures difficult topics (E).	15.55
6. Speaks clearly (P).	13.54
7. Objectives (L).	13.00
8. Aware (Q).	12.24
9. Stimulates independent thought (J).	12.29
10. Handouts (A).	12.22
11. = Express themselves (M).	11.73
11. = Feedback (N).	11.73
13. Developments (B).	11.35
14. Motivates students (R).	10.77
15. Welcomes questions (U).	10.39
16. Interest in subject (S).	10.29
17. Relate to other subjects (I).	10.25
18. Answers questions accurately (K).	10.22
19. General knowledge (C).	10.04
20. Sense of humour (T).	7.13
21. Good vocabulary (V).	4.92
22. Personal anecdotes (O).	4.65

Table 2 - showing most popular items of ideal lecturer in rank order. The full characteristics are listed in Appendix 1. The letters in brackets refer to the position on the final questionnaire used.

Thus the most important characteristics of lecturers for overseas students can be summarised as:

- i) Prepared and organised lectures.
- ii) Clear explanations of topics.

This compares closely with the earlier British studies, but slightly different to the North American studies. Feldman (1976b) found "respect for students"; "clarity of presentation"; "availability outside class";

"knowledge of subject"; "concern for class progress"; and "interesting to students" to be the most important items, depending on the type of study.

It was hoped at the start of the research that there would be nationality differences in the ranking of characteristics. Unfortunately the number of responses from certain nationality groupings are small, thereby questioning the validity of their rankings as representative on their group as a whole. To overcome this weakness, the significance level used was $p < .001$ (Miller 1984).

Most of the nationality groupings place "Well-organised and clearly presented lectures (G)" as number 1, closely followed by "Explains concepts, principles and abstract theories clearly and precisely (H)"; "Is well-prepared for classes (D)"; "Good knowledge of subject (F)"; and "Structures difficult topics in easily understandable ways (E)". A Kruskal-Wallis 1 way ANOVA found significant differences on two characteristics:

i) "States objectives clearly at beginning of course (L)" - ($X^2 = 27.6$; $p < .001$) rated higher by African students ($N = 29$). But all significantly higher except Arabic-speaking students ($N = 6$).

ii) "Sense of humour (T)" - ($X^2 = 26.0$; $p < .001$) rated higher by South-east Asian students ($N = 53$) than all others, except Caribbean and North American students ($N = 5$). Not significant, though, with Arabic-speaking and European students ($N = 6$ and 17 respectively).

All the nationality groups, except South-east Asia and African, were combined. A Kruskal-Wallis between those nationality groups and the rest found one further significant differences. "Good general knowledge (C)" rated higher by South-East Asian students ($X^2 = 14.4$; $p < .001$). Analysis by independent t-test of South-east Asia and Africa groups found no other significant differences.

From South-east Asian students, there were 71 responses; this allowed a sub-division into individual nationalities.

A comparison of Japanese (19 responses) and Hong Kong (17) responses produced no significant differences between them, nor between Japanese students and the rest of the South-east Asian group, on all characteristics. Practically though, Japanese students placed "speaks clearly and audibly" (P) higher, and "is well-prepared for classes" (D) lower than Hong Kong students. The numbers of the other individual countries

in this group were too small to use. Even the Japanese and Hong Kong samples are relatively small admittedly.

Factor analysis was performed on all the responses. The literature reviewed had found a number of factors. The data from the questionnaire was tested by the Bartlett test of sphericity, producing a significant level of $p < .00001$. This suggested the use of the factor model (Maria and Norusis 1988). But the anti-image correlation matrix produced a large number of high coefficients. This suggested against the use of the factor model (Maria and Norusis 1988). Also, practically from looking at the correlation matrix, few correlations between characteristics were very large. Less than five of the correlations were greater than 0.3 (Maria and Norusis 1988). Not surprisingly, factor analysis did not produce any clear-cut results (thirteen different approaches were tried). An example of the factor analysis can be seen in Appendix 3.

However, the fact that the results of the study at the University of Birmingham would not reduce to a smaller number of factors is not seen as a problem. The use of factor analysis generally, is not without difficulties.

Rees (1990) lists the three main objections to the use of factor analysis generally:

- i) "Factor" output "wholly dependent upon the data entered into the calculation" (p11).

- ii) There are many possible factor analytic solutions.

- iii) The number of factors to extract, and the naming of them is subjective.

Furthermore, it highlights the fact that the choice of characteristics of the ideal lecturer by overseas students may be different to previous studies, which probably all used home students. This adds support to the need for the construction of a separate ratings instrument for overseas students.

The final version of the Birmingham Overseas Students Teaching Evaluation Questionnaire (BOSTEQ) can be found in Appendix 4.

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APPENDIX 1

ITEMS USED IN PILOT STUDY

- A - Makes good use of handouts.
- B - Deals fairly and impartially with all students.
- C - Discusses recent developments in subject.
- D - Has good general knowledge.
- E - Is well-prepared for classes.
- F - Structures difficult topics in easily understandable ways.
- G - Has good knowledge of own subject.
- H - Encourages class members to work as a team.
- I - Well-organised and clearly presented lectures.
- J - Encourages all class members to contribute to discussions.
- K - Provides full set of references for studies quoted.
- L - Explains concepts, principles, and abstract theories clearly and precisely.
- M - Relates course material to other subjects, everyday life or future career.
- N - Avoids excess of factual material.
- O - Encourages and stimulates students to independent thought.
- P - Includes material not readily available in textbooks.
- Q - Covers course topics in sufficient depth.
- R - Answers questions accurately.
- S - Clearly states objectives of course at beginning.
- T - Finds ways to help students answer their own questions.
- U - Clearly defines student responsibility on the course.
- V - Welcomes questions and discussion from students.
- W - Makes clear how each topic fits in course.
- X - Encourages students to express themselves freely and openly, and takes their views into account.
- Y - Always well-groomed, neat and clean in personal appearance.
- Z - Provides adequate feedback with helpful/constructive comments on work.
- A1 - Concerned about effectiveness of teaching.
- B1 - Returns written work promptly.
- C1 - Maintains continuity in course.
- D1 - Speaks clearly and audibly during lectures.
- E1 - Readily available to help outside classes.
- F1 - Accomplishes objectives of course,
- G1 - Has good vocabulary.
- H1 - Awards grades suitably and fairly based on work performed.
- I1 - Stresses important material on course.
- J1 - Indicates how much attention to give to different parts of reading material.
- K1 - Is aware when students having difficulty in understanding topics.
- L1 - Speaks with expression, and varies tone of voice during lectures.
- M1 - Avoids trivial time-filling material.
- N1 - Writes legibly on blackboard.
- O1 - Seems genuinely interested in students.
- P1 - Skilful in blackboard drawing.
- Q1 - Stresses application as well as theory.
- R1 - Contrasts varying views objectively.
- S1 - Stimulates interest in subject beyond course requirements.
- T1 - Invites criticism of own ideas.
- U1 - Makes good use of examples and illustrations in lectures.
- V1 - Motivates students to do best work.
- W1 - Speaks at pace suitable for maximum comprehension, and facilitates note-taking.
- X1 - Shows interest and enthusiasm in own subject.
- Y1 - Tries to link lectures with other parts of course.
- Z1 - Has sense of humour.

- A2 - Keeps strictly to textbook in lectures.
- B2 - Provides all students need to pass examinations.
- C2 - Entertaining to listen to in lectures.
- D2 - Punctual and reliable in attendance at classes.
- E2 - Changes approach to meet new situations.
- F2 - Free from annoying personal peculiarities.
- G2 - Indicates where relevant information not dealt with in the lecture can be found.
- H2 - Demands reasonable amount of work.

APPENDIX 2

COPY OF FINAL QUESTIONNAIRE

PART 1: General Questions.

What is your nationality?

What is your course?

What year of your course are you studying now?

How long have you been in the UK?

Is this your first time to study here?

Are you male or female?

Which age group are you? 18-21; 22-30; 31-40; 41-50; 51+

PART 2: Listed below are 22 characteristics that an ideal lecturer could possess. Please rank them in terms of importance, starting with 1 as most important.

- A _____ Makes good use of handouts.
- B _____ Discusses recent developments in subject.
- C _____ Has good general knowledge.
- D _____ Is well-prepared for classes.
- E _____ Structures difficult topics in easily understandable ways.
- F _____ Has good knowledge of own subject.
- G _____ Well-organised and clearly presented lectures.
- H _____ Explains concepts, principles, and abstract theories clearly and precisely.
- I _____ Relates course material to other subjects, everyday life or future career.
- J _____ Encourages and stimulates students to independent thought.
- K _____ Answers questions accurately.
- L _____ Clearly states objectives of course at beginning.
- M _____ Encourages students to express themselves freely and openly, and takes their views into account.
- N _____ Provides adequate feedback with helpful/constructive comments on work.
- O _____ Includes relevant personal anecdotes in lecture.
- P _____ Speaks clearly and audibly during lectures.
- Q _____ Is aware when students having difficulty in understanding topics.
- R _____ Motivates students to do best work.
- S _____ Shows interest and enthusiasm in own subject.
- T _____ Has sense of humour.
- U _____ Welcomes questions and discussion from students.
- V _____ Has good vocabulary.

APPENDIX 3

EXAMPLE OF FACTOR ANALYSIS ON DATA FROM QUESTIONNAIRE AT UNIVERSITY OF BIRMINGHAM

The SPSS default method (principal components with varimax rotation) is typical of the other methods used. Factors are produced, but it very hard to name them. For example, factor I includes "provides adequate feedback with helpful/constructive comments (N)", "aware when students having difficulty in understanding (Q)", and "welcomes questions and comments from students (U)" which logically could be called "relationship with students", but also includes a negative "explains concepts, principles and abstract theories clearly and precisely (H)".

Items	I	II	III	IV	V	VI	VII	VIII	IX
V	-77								
N	68								
Q	59								-31
S		85							
A		-66							
J			82						
M			73						
F				-76					
D			-30	-62			39		
E		-33		55					
I					75				
U					-64				
O	35				60	37			
H						-78			
R						68			
B							65		
C		-31		-33			-63		
T							-51		43
L								-79	
G								57	47
K		-39	-30					55	
P									74

Rotated factor matrix on SPSS default factor analysis. The item letters relate to characteristics in final questionnaire, and are described in detail in appendix 2.

APPENDIX 4

BIRMINGHAM OVERSEAS STUDENTS TEACHING EVALUATION QUESTIONNAIRE

NATIONALITY:

COURSE:

SEX:

LECTURER RATED:

Using the following key, rate the lecturer on each of the statements.

1 = Poor	4 = Just Above Average
2 = Below Average	5 = Good
3 = Average	6 = Excellent

1. Makes good use of handout.
2. Is well-prepared for classes.
3. Structures difficult topics in easily understandable ways.
4. Has good knowledge of own subject.
5. Well-organised and clearly presented lectures.
6. Explains concepts, principles, and abstract theories clearly and precisely.
7. Encourages and stimulates students to independent thought.
8. Clearly states objectives of course at beginning.
9. Encourages students to express themselves freely and openly, and takes their views into account.
10. Provides adequate feedback with helpful/constructive comments on work.
11. Speaks audibly and clearly during lectures.
12. Is aware when students having difficulty in understanding topics.
13. Overall evaluation of lecture.

ANY FURTHER COMMENTS ABOUT THE LECTURE.